ABSTRACT

The present invention provides a method and apparatus for instrumental analysis in remote locations. In one embodiment, the present inv ntion provides a method of controlling cathodic protection being applied to a metal structure having a surface disposed in an electrolytic environment comprising electrically connecting a metal coupon to the surface of the metal structure, positioning the metal coupon at a predetermined position relative to the surface of the metal structure and within the electrolytic environment, applying a cathodic protection agent to the surface of the metal structure to effect cathodic protection of the surface of the metal structure, measuring a cathodic protection indication proximate to the metal coupon, comparing the cathodic protection indication with a predetermined value, and adjusting the cathodic protection agent being applied to the surface of the metal structure in response to the comparison. In this respect, the present invention provides a system for controlling the efficacy of cathodic protection being applied to a metal structure disposed in an electrolytic environment comprising an electrical voltage and current source for applying an electrical current to the metal structure to effect cathodic protection of the metal structure, a measurement apparatus for measuring the efficacy of the cathodic protection, the measurement apparatus being electrically connected to the metal structure, and a passage for receiving movement of the means for measuring to effect positioning of the measurement apparatus at a predetermined position relative to the metal structure. The passage of the present invention could also be used to facilitate non-destructive testing at remote locations, as well as to mitigate or prevent stray current discharge.